

MULTIMEDIA



UNIVERSITY

STUDENT ID NO

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MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 1, 2017/2018

BFN2084 – PERSONAL FINANCE

(All sections / Groups)

28 OCTOBER 2017

9.00 am – 11.00 am

(2 Hours)

INSTRUCTIONS TO STUDENTS

1. This question paper consists of **SEVEN (7)** pages excluding cover page.
2. **SECTION A: 20 Multiples Choice Questions.** Please shed your answer in the OMR sheet provided.

SECTION B: 4 Structured Questions. Answer **ALL FOUR** questions in the answer booklet provided.

3. Marks allocations are shown at the end of each question.

SECTION A: MULTIPLE CHOICES QUESTIONS (40%)

- 1) The individual designated by the owner of the life insurance policy to receive the policy's proceeds upon the death of the insured is called the
- A) policy holder.
 - B) beneficiary.
 - C) insured.
 - D) actuary.
 - E) heirs
- 2) Billy has chosen to purchase a new vehicle. The vehicle costs RM15,000. His APR is 10% and he will be financing the vehicle for 36 months. How much will Billy pay each month for his new vehicle?
- A) RM484.01
 - B) RM296.35
 - C) RM312.66
 - D) RM405.29
 - E) RM496.33
- 3) Sharing the financial consequences associated with risk in the insurance industry is sometimes called
- A) risk pooling.
 - B) risk deferring.
 - C) risk migration.
 - D) risk splitting.
 - E) none of the above
- 4) For which of these situations is life insurance a good idea?
- A) married with children
 - B) married, single-income couple with no children
 - C) single with no dependents
 - D) Only A and B
 - E) All of the above.
- 5) John purchases a life insurance policy on his wife Betty where he pays the premium and he will receive the life insurance money when she dies. John is both the _____ and the _____ who will receive the _____ upon the death of Betty, the _____.
- A) insured; beneficiary; money; policyholder
 - B) policy owner; beneficiary; face amount; insured
 - C) policy owner; insured; face amount; beneficiary
 - D) beneficiary; premium payer; face amount; policy holder
 - E) none of the above

Continued...

- 6) Which of the following is not a consideration in determining the amount of homeowner's insurance a person needs?
- A) Cover the entire replacement cost in the event of a complete loss.
 - B) Match the insurance coverage of similar homes in your neighborhood.
 - C) Protect against the effect of inflation eroding away your coverage.
 - D) Purchase flood or earthquake coverage if you are in an area prone to these occurrences.
 - E) Determine if detached structures are adequately covered under standard policies.
- 7) Antoine LaDuke suffered a major loss on his older home due to mud from a flood. Although he had homeowner's insurance, what was the probable reason he was not covered?
- A) His home was probably too expensive.
 - B) His policy excluded flood-related damages.
 - C) This is a personal liability issue.
 - D) Older homes are excluded from flood-related damages.
 - E) None of the above
- 8) An investor owns stock from seven different companies, two rental houses, and three government bonds. Together these assets are considered to be the investor's _____.
- A) collection
 - B) derivative holding
 - C) asset class
 - D) portfolio
 - E) none of the above
- 9) Suppose that you purchased a machine several years ago for your company. You recently sold the machine for more than you paid. This is an example of a _____.
- A) capital carry-forward
 - B) non-taxable gain
 - C) capital gain
 - D) windfall
 - E) none of the above
- 10) The _____ is the stated amount on the face of a bond, which the firm is to repay at the maturity date.
- A) historical value
 - B) debt price
 - C) par value
 - D) relevant value
 - E) none of the above

Continued...

- 11) When you purchase an asset that generates a return, it is generally considered to be _____.
- A) an investment
 - B) speculation
 - C) a windfall
 - D) an expected returner
 - E) none of the above
- 12) You have just purchased shares of stock from a stockbroker. These shares were previously traded on the Bursa Malaysia. This trade took place in the _____.
- A) primary market
 - B) secondary market
 - C) tertiary market
 - D) quaternary market
 - E) none of the above
- 13) A(n) _____ is a legal document that describes a securities issue and is made available to potential investors.
- A) disclosure statement
 - B) offering contract
 - C) prospectus
 - D) tombstone
 - E) none of the above
- 14) Which of the following is a disadvantage to mutual fund investing?
- A) On average they underperform the market returns.
 - B) Costs may be high and vary dramatically from fund to fund.
 - C) Not all mutual funds are truly safe.
 - D) You cannot diversify away systematic risk.
 - E) All of the above.
- 15) Which of the following is a benefit to investing in a mutual fund?
- A) Most small investors don't have the time, knowledge or desire to do the research necessary to purchase individual stocks.
 - B) Mutual fund transaction fees are considerably lower than the brokerage fees most small investors incur buying and selling individual stocks.
 - C) Most small investors want to be able to invest relatively small amounts of money on a regular basis.
 - D) All of the above are correct.
 - E) Only A and B are correct.

Continued...

- 16) As a child gets older, the main investment objective becomes ____ and consequently the percentage invested in common stocks should ____.
- A) Growth in capital; increase
 - B) Preservation of capital; increase
 - C) Growth in capital; decrease
 - D) Preservation of capital; decrease
 - E) None of the above
- 17) You are participating in a pension plan where the company's contributions vary from year to year, depending on the firm's performance. This is an example of a(n) ____.
- A) variable contribution plan
 - B) earnings establishment plan
 - C) performance retirement plan
 - D) profit-sharing plan
 - E) none of the above
- 18) When should you begin planning for a financially secure retirement?
- A) as soon as you begin your working career
 - B) in your early 40s
 - C) in your early 50s
 - D) in your early 60s
 - E) none of the above
- 19) Which of the following factors is the MOST important when determining your retirement savings needs?
- A) your desired retirement income
 - B) the expected rate of inflation
 - C) the rate of return you can earn on your savings
 - D) expected Social Security benefits
 - E) none of the above
- 20) You are engaging in ____ when you plan for what happens to your accumulated wealth and your dependents after you die, as well as determining decision-making authority should you be physically or mentally impaired.
- A) estate planning
 - B) retirement planning
 - C) unified planning
 - D) death establishment
 - E) None of the above is correct.

Continued...

Section B: Structured Questions (60%).

Answer ALL the questions.

Question 1 (15 marks)

- (a) How much did you borrow if your annual payments are RM5,000 for the next seven years and the interest rate is 9%?

(8 marks)

- (b) List the six keys to successful debt management.

(7 marks)

Question 2 (15 marks)

- (a) Describe the two basic approaches used to determine the amount of life insurance needed?

(7 marks)

- (b) Define coinsurance and deductible in a life insurance policy.

(8 marks)

Question 3 (15 marks)

- (a) What is the purpose for adjusting your asset allocation as you age? Discuss why wouldn't "the best" or highest returning portfolio always be prudent.

(6 marks)

- (b) Investors need to be aware of nine sources of risk when calculating the risk-return trade-off. List and briefly describe these nine sources of risk.

(9 marks)

Question 4 (15 marks)

- (a) Explain why timing is essential to retirement planning.

(5 marks)

- (b) Define estate planning. List the objectives to accomplish through estate planning.

(10 marks)

The End of Page

Present Value and Future Value Tables

Table A-1 Future Value Interest Factors for One Dollar Compounded at k Percent for n Periods: $FVIF_{k,n} = (1 + k)^n$

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	20%	24%	25%	30%
1	1.0100	1.0200	1.0300	1.0400	1.0500	1.0600	1.0700	1.0800	1.0900	1.1000	1.1100	1.1200	1.1300	1.1400	1.1500	1.1600	1.2000	1.2400	1.2500	1.3000
2	1.0201	1.0404	1.0609	1.0816	1.1025	1.1236	1.1449	1.1664	1.1881	1.2100	1.2321	1.2544	1.2769	1.2996	1.3225	1.3456	1.4400	1.5376	1.5625	1.6900
3	1.0303	1.0612	1.0927	1.1249	1.1576	1.1910	1.2250	1.2597	1.2950	1.3310	1.3676	1.4049	1.4429	1.4815	1.5209	1.5609	1.7280	1.9066	1.9531	2.1970
4	1.0406	1.0824	1.1255	1.1699	1.2155	1.2625	1.3108	1.3605	1.4116	1.4641	1.5181	1.5735	1.6305	1.6890	1.7490	1.8106	2.0736	2.3642	2.4414	2.8561
5	1.0510	1.1041	1.1593	1.2167	1.2763	1.3382	1.4026	1.4693	1.5386	1.6105	1.6851	1.7623	1.8424	1.9254	2.0114	2.1003	2.4883	2.9316	3.0518	3.7129
6	1.0615	1.1262	1.1941	1.2653	1.3401	1.4185	1.5007	1.5869	1.6771	1.7716	1.8704	1.9738	2.0820	2.1950	2.3131	2.4364	2.9860	3.6352	3.8147	4.8268
7	1.0721	1.1487	1.2299	1.3159	1.4071	1.5036	1.6058	1.7138	1.8280	1.9487	2.0762	2.2107	2.3526	2.5023	2.6600	2.8262	3.5832	4.5077	4.7684	6.2749
8	1.0829	1.1717	1.2668	1.3686	1.4775	1.5938	1.7182	1.8509	1.9926	2.1436	2.3045	2.4760	2.6584	2.8526	3.0590	3.2784	4.2998	5.5895	5.9605	8.1573
9	1.0937	1.1951	1.3048	1.4233	1.5513	1.6895	1.8385	1.9990	2.1719	2.3579	2.5580	2.7731	3.0040	3.2519	3.5179	3.8030	5.1598	6.9310	7.4506	10.504
10	1.1046	1.2190	1.3439	1.4802	1.6289	1.7908	1.9672	2.1589	2.3674	2.5937	2.8394	3.1058	3.3946	3.7072	4.0456	4.4114	6.1917	8.5944	9.3132	13.786
11	1.1157	1.2434	1.3842	1.5395	1.7103	1.8983	2.1049	2.3316	2.5804	2.8531	3.1518	3.4785	3.8359	4.2262	4.6524	5.1173	7.4301	10.657	11.642	17.922
12	1.1268	1.2682	1.4258	1.6010	1.7959	2.0122	2.2522	2.5182	2.8127	3.1384	3.4985	3.8960	4.3345	4.8179	5.3503	5.9360	8.9161	13.215	14.552	23.298
13	1.1381	1.2936	1.4685	1.6651	1.8856	2.1329	2.4098	2.7196	3.0688	3.4523	3.8833	4.3635	4.8980	5.4924	6.1528	6.8858	10.699	16.386	18.190	30.288
14	1.1495	1.3195	1.5126	1.7317	1.9799	2.2609	2.5785	2.9372	3.3417	3.7975	4.3104	4.8771	5.5348	6.2613	7.0757	7.9875	12.839	20.319	22.737	39.374
15	1.1610	1.3459	1.5580	1.8009	2.0789	2.3966	2.7590	3.1722	3.6425	4.1772	4.7846	5.4736	6.2543	7.1379	8.1371	9.2655	15.407	25.196	28.422	51.186
16	1.1726	1.3728	1.6047	1.8730	2.1829	2.5404	2.9522	3.4259	3.9703	4.5980	5.3109	6.1304	7.0673	8.1372	9.3576	10.748	18.488	31.243	35.527	66.542
17	1.1843	1.4002	1.6528	1.9479	2.2920	2.6928	3.1588	3.7000	4.3276	5.0545	5.8951	6.8660	7.9861	9.2765	10.761	12.468	22.186	38.741	44.409	86.504
18	1.1961	1.4282	1.7024	2.0258	2.4066	2.8543	3.3799	3.9660	4.7171	5.5599	6.5436	7.6900	9.0243	10.575	12.375	14.463	26.623	48.039	55.511	112.455
19	1.2081	1.4568	1.7535	2.1068	2.5270	3.0256	3.6165	4.3157	5.1417	6.1159	7.2633	8.6128	10.197	12.056	14.232	16.777	31.948	59.568	69.389	146.192
20	1.2202	1.4859	1.8061	2.1911	2.6533	3.2071	3.8697	4.6610	5.6044	6.7275	8.0623	9.6463	11.523	13.743	16.367	19.461	38.338	73.864	86.736	190.050
21	1.2324	1.5157	1.8603	2.2788	2.7860	3.3996	4.1406	5.0338	6.1088	7.4002	8.9492	10.804	13.021	15.668	18.822	22.574	46.005	91.592	108.420	247.065
22	1.2447	1.5460	1.9161	2.3699	2.9253	3.6035	4.4304	5.4365	6.6586	8.1403	9.9336	12.100	14.714	17.861	21.545	26.186	55.206	113.574	135.525	321.184
23	1.2572	1.5769	1.9736	2.4647	3.0715	3.8197	4.7405	5.8715	7.2579	8.9543	11.026	13.552	16.627	20.362	24.891	30.376	66.247	140.831	169.407	417.539
24	1.2697	1.6084	2.0328	2.5633	3.2251	4.0489	5.0724	6.3412	7.9111	9.8497	12.239	15.179	18.788	23.212	28.625	35.238	79.497	174.631	211.758	542.801
25	1.2824	1.6406	2.0936	2.6658	3.3864	4.2919	5.4274	6.8485	8.6231	10.835	13.555	17.000	21.231	26.462	32.919	40.874	95.396	216.542	264.698	705.641
30	1.3478	1.8114	2.4273	3.2434	4.3219	5.7435	7.6123	10.063	13.268	17.449	22.892	29.960	39.116	50.950	66.212	85.850	237.376	634.820	807.794	*
35	1.4166	1.9999	2.8139	3.9461	5.5160	7.6861	10.677	14.765	20.414	28.102	38.575	52.800	72.069	98.100	133.176	180.314	590.668	*	*	*
40	1.4308	2.0399	2.8963	4.1039	5.7918	8.1473	11.424	16.474	22.251	30.913	42.818	59.136	81.437	111.834	153.152	209.164	708.802	*	*	*
45	1.4889	2.2080	3.2620	4.8010	7.0400	10.286	14.974	21.725	31.409	45.259	65.001	93.051	132.782	188.884	267.864	378.721	*	*	*	*
50	1.6446	2.6916	4.3839	7.1067	11.467	18.420	29.457	46.902	74.358	117.391	184.565	289.002	450.736	700.233	*	*	*	*	*	*

Table A-2 Future Value Interest Factors for a One-Dollar Annuity Compounded at k Percent for n Periods: $FVIFA_{k,n} = [(1 + k)^n - 1] / k$

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	20%	24%	25%	30%
1	1.0000	1.0200	1.0300	1.0400	1.0500	1.0600	1.0700	1.0800	1.0900	1.1000	1.1100	1.1200	1.1300	1.1400	1.1500	1.1600	1.2000	1.2400	1.2500	1.3000
2	2.0100	2.0200	2.0300	2.0400	2.0500	2.0600	2.0700	2.0800	2.0900	2.1000	2.1100	2.1200	2.1300	2.1400	2.1500	2.1600	2.2000	2.2400	2.2500	2.3000
3	3.0301	3.0604	3.0909	3.1216	3.1525	3.1836	3.2149	3.2464	3.2781	3.3100	3.3421	3.3744	3.4069	3.4396	3.4725	3.5056	3.6400	3.7776	3.8125	3.9900
4	4.0604	4.1216	4.1836	4.2465	4.3101	4.3746	4.4399	4.5061	4.5731	4.6410	4.7097	4.7793	4.8498	4.9211	4.9934	5.0665	5.3680	5.6842	5.7656	6.1870
5	5.1010	5.2040	5.3091	5.4163	5.5256	5.6371	5.7507	5.8666	5.9847	6.1051	6.2278	6.3528	6.4803	6.6101	6.7424	6.8771	7.4416	8.0484	8.2070	9.0431
6	6.1520	6.3081	6.4684	6.6330	6.8019	6.9753	7.1533	7.3359	7.5233	7.7156	7.9129	8.1152	8.3227	8.5355	8.7537	8.9775	9.9299	10.980	11.259	12.756
7	7.2135	7.4343	7.6625	7.8983	8.1420	8.3938	8.6540	8.9228	9.2004	9.4872	9.7833	10.089	10.405	10.730	11.067	11.414	12.916	14.615	15.073	17.583
8	8.2857	8.5830	8.8923	9.2142	9.5491	9.8975	10.260	10.637	11.028	11.436	11.859	12.300	12.757	13.233	13.727	14.240	16.499	19.123	19.842	23.858
9	9.3685	9.7546	10.159	10.583	11.027	11.491	11.978	12.488	13.021	13.579	14.164	14.776	15.416	16.085	16.786	17.519	20.799	24.712	25.802	32.015
10	10.462	10.950	11.464	12.006	12.578	13.181	13.816	14.487	15.193	15.937	16.722	17.549	18.420	19.337	20.304	21.321	25.959	31.643	33.253	42.619
11	11.567	12.169	12.808	13.486	14.207	14.972	15.784	16.645	17.560	18.531	19.561	20.655	21.814	23.045	24.349	25.733	32.150	40.238	42.566	56.405
12	12.683	13.412	14.192	15.026	15.917	16.870	17.888	18.977	20.141	21.384	22.713	24.133	25.650	27.271	29.002	30.850	39.581	50.895	54.208	74.327
13	13.809	14.680	15.618	16.627	17.713	18.882	20.141	21.495	22.953	24.523	26.212	28.029	29.985	32.089	34.352	36.786	48.497	64.110	68.760	97.625
14	14.947	15.974	17.066	18.292	19.599	21.016	22.550	24.215	26.019	27.975	30.095	32.393	34.883	37.581	40.505	43.672	59.196	80.496	86.949	127.913
15	16.097	17.293	18.599	20.024	21.579	23.276	25.129	27.152	29.361	31.772	34.405	37.280	40.417	43.842	47.580	51.660	72.035	100.815	109.687	167.286
16	17.258	18.639	20.157	21.825	23.657	25.673	27.888	30.324	33.003	35.950	39.190	42.753	46.672	50.980	55.717	60.925	87.442	126.011	138.109	218.472
17	18.430	20.012	21.762	23.698	25.840	28.213	30.840	33.750	36.974	40.545	44.501	48.884	53.739	59.118	65.075	71.673	105.931	157.253	173.636	285.014
18	19.615	21.412	23.414	25.645	28.132	30.906	33.999	37.450	41.301	45.599	50.396	55.750	61.725	68.394	75.836	84.141	128.117	195.994	218.045	371.518
19	20.811	22.841	25.117	27.671	30.539	33.760	37.379	41.446	46.018	51.159	56.939	63.440	70.749	78.969	88.212	98.603	154.740	244.033	273.556	483.973
20	22.019	24.297	26.870	29.778	33.066	36.786	40.995	45.762	51.160	57.275	64.203	72.052	80.947	91.025	102.444	115.380	186.688	303.601	342.945	630.165
21	23.239	25.783	28.676	31.969	35.719	39.993	44.865	50.423	56.765	64.002	72.265	81.699	92.470	104.768	118.810	134.841	225.026	377.465	429.681	820.215
22	24.472	27.299	30.537	34.248	38.505	43.392	49.006	55.457	62.873	71.403	81.214	92.503	105.491	120.435	138.297	159.276	257.145	471.031	469.056	538.101
23	25.716	28.845	32.453	36.618	41.430	46.996	53.436	60.893	69.532	79.543	91.148	104.603	120.205	139.297	159.276	181.601	283.237	528.630	538.045	673.626
24	26.973	30.422	34.426	39.083	44.502	50.816	58.177	66.765	76.790	88.497	102.174	118.155	136.831	158.659	184.168	213.978	332.484	623.461	643.033	843.033
25	28.243	32.030	36.459	41.646	47.727	54.865	63.249	73.106	84.701	98.347	114.413	133.334	155.620	181.871	212.793	249.214	401.981	788.092	843.033	1143.033
26	29.536	33.823	38.700	44.240	50.750	58.399	67.994	78.743	91.558	106.409	123.496	143.881	167.815	196.320	228.435	275.170	451.435	888.092	943.033	1243.033
27	30.851	35.621	40.933	46.844	53.800	62.759	73.863	85.812	100.737	117.692	136.866	159.359	186.290	217.785	253.850	305.585	501.435	988.092	1043.033	1343.033
28	32.187	37.434	43.180	49.057	56.450	65.869	78.272	91.535	107.580	125.635	146.900	171.593	200.724	235.419	281.584	340.319	561.435	1118.092	1173.033	1443.033
29	33.544	39.261	45.343	51.280	59.300	69.999	83.772	98.435	115.680	135.835	159.200	186.893	218.924	258.619	309.314	375.049	621.435	1248.092	1303.033	1543.033
30	34.911	41.101	47.575	53.608	61.800	72.559	86.872	102.235	120.680	142.035	166.400	195.893	229.624	274.319	330.049	405.784	681.435	1383.092	1453.033	1643.033
31	36.288	42.954	49.575	55.943	64.500	75.869	90.572	106.435	125.980	148.335	174.700	206.293	240.984	290.679	355.414	440.149	741.435	1518.092	1563.033	1743.033
32	37.675	44.811	51.594	58.280	67.200	79.599	94.872	111.135	131.680	154.035	183.400	216.893	255.584	310.279	380.914	475.649	801.435	1643.092	1673.033	1843.033
33	39.072	46.671	53.575	60.615	69.900	82.999	98.572	115.235	136.680	160.435	190.700	224.193	268.884	329.579	404.114	500.149	861.435	1718.092	1783.033	1943.033
34	40.479	48.534	55.554	62.940	72.600	85.999	101.272	119.335	140.680	166.835	197.900	231.493	278.184	343.679	424.614	525.649	921.435	1793.092	1893.033	2043.033
35	41.896	50.401	57.533	65.265	75.300	88.999	104.072	123.435	145.680	172.835	204.100	238.693	287.484	363.179	449.114	556.149	981.435	1813.092	2003.033	2143.033
36	43.323	52.271	59.512	67.590	78.000	92.000	106.972	128.435	150.680	178.835	210.100	246.193	296.984	382.679	474.614	586.649	1041.435	1833.092	2113.033	2243.033
37	44.760	54.141	61.491	69.915	80.400	95.000	110.072	133.435	155.680	183.835	215.100	254.193	306.484	402.179	499.114	617.149	1101.435	1853.092	2223.033	2343.033
38	46.207	56.011	63.540	72.340	82.800	97.500	113.172	138.435	160.680	188.835	220.100	262.193	316.484	421.679	524.614	647.649	1161.435	1873.092	2333.033	2443.033
39	47.664	57.881	65.589	74.765	85.200	100.000	116.272	143.435	165.680	193.835	225.100	270.193	326.484	441.179	549.114	678.149	1221.435	1893.092	2443.033	2543.033
40	49.131	59.751	67.638	77.190	87.600	102.500	119.372	148.435	170.680	200.835	230.100	278.193	336.484	461.179	574.614	708.649	1281.435	1913.092	2553.033	2643.033
41	50.608	61.621	69.687	79.615	90.000	105.000	122.472	153.435	175.680	205.835	235.100	286.193	346.484	481.179	600.114	739.149	1341.435	1933.092	2663.033	2743.033
42	52.095	63.491	71.736	82.040	92.400	107.500	125.572	158.435	180.680	210.835	240.100	294.193	356.484	501.179	625.614	769.649	1401.435	1953.092	2773.033	2843.033
43	53.592	65.361	73.785	84.465	94.800	110.000	128.672	163.435	185.680	215.835	245.100	302.193	366.484	521.679	651.114	800.149	1461.435	1973.092	2883.033	2943.033
44	55.099	67.231	75.834	86.890	97.200	112.500	131.772	168.435	190.680	220.835	250.100	310.193	376.484	541.679	676.614	830.649	1521.435	1993.092	2993.033	3043.033
45	56.606	69.101	77.883	89.315	100.000	115.000	134.872	173.435	195.680	225.835	255.100	318.193	386.484	561.679	702.114	861.149	1581.435	2013.092	3103.033	3143.033
46	58.123	70.971	79.932	91.740	102.400	117.500	137.972	178.435	200.680	230.835	260.100	326.193	396.484	581.679	727.614	891.649	1641.435	2033.092	3213.033	3243.033
47	59.650	72.841	81.981	94.165	104.800	120.000	141.072	183.435	205.680	235.835	265.100	334.193	406.484	601.679	753.114	922.149	1701.435	2053.092	3323.033	3343.033
48	61.177	74.711	84.030	96.590	107.200	122.500	144.172	188.435	210.680	240.835	270.100	342.193	416.484	621.679	778.614	952.649	1761.435	2073.092	3433.033	3443.033
49	62.714	76.581	86.079	99.015	110.000	125.000	147.272	193.435	215.680	245.835	275.100	350.193	426.484	641.679	803.114	983.149	1821.435	2093.092	3543.033	3543.033
50	64.261	78.451	88.128	101.440	112.400	127.500	150.372	198.435	220.680	250.835	280.100	358.193	436.484	661.679	828.614	1013.649	1881.435	2113.092	3653.033	3643.033

Present Value and Future Value Tables

Table A-3 Present Value Interest Factors for One Dollar Discounted at k Percent for n Periods: $PVIF_{k,n} = 1 / (1 + k)^n$

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	20%	24%	25%	30%
1	0.9901	0.9804	0.9709	0.9615	0.9524	0.9434	0.9346	0.9259	0.9174	0.9091	0.9009	0.8929	0.8850	0.8772	0.8696	0.8621	0.8333	0.8065	0.8000	0.7692
2	0.9803	0.9612	0.9426	0.9246	0.9070	0.8900	0.8734	0.8573	0.8417	0.8264	0.8116	0.7972	0.7831	0.7695	0.7561	0.7432	0.6944	0.6504	0.6400	0.5917
3	0.9706	0.9423	0.9151	0.8890	0.8638	0.8396	0.8163	0.7938	0.7722	0.7513	0.7312	0.7118	0.6931	0.6750	0.6575	0.6407	0.5787	0.5245	0.5120	0.4552
4	0.9610	0.9238	0.8885	0.8548	0.8227	0.7921	0.7629	0.7350	0.7084	0.6830	0.6587	0.6355	0.6133	0.5921	0.5718	0.5523	0.4823	0.4230	0.4096	0.3501
5	0.9515	0.9057	0.8626	0.8219	0.7835	0.7473	0.7130	0.6806	0.6499	0.6209	0.5935	0.5674	0.5428	0.5194	0.4972	0.4761	0.4019	0.3411	0.3277	0.2693
6	0.9420	0.8880	0.8375	0.7903	0.7462	0.7050	0.6663	0.6302	0.5963	0.5645	0.5346	0.5066	0.4803	0.4556	0.4323	0.4104	0.3349	0.2751	0.2621	0.2072
7	0.9327	0.8706	0.8131	0.7599	0.7107	0.6651	0.6227	0.5835	0.5470	0.5132	0.4817	0.4523	0.4251	0.3996	0.3759	0.3538	0.2791	0.2218	0.2097	0.1594
8	0.9235	0.8535	0.7894	0.7307	0.6768	0.6274	0.5820	0.5403	0.5019	0.4665	0.4339	0.3762	0.3506	0.3269	0.3050	0.2843	0.2326	0.1789	0.1678	0.1226
9	0.9143	0.8368	0.7664	0.7026	0.6446	0.5919	0.5439	0.5002	0.4604	0.4241	0.3909	0.3606	0.3329	0.3075	0.2843	0.2630	0.1938	0.1443	0.1342	0.0943
10	0.9053	0.8203	0.7441	0.6756	0.6139	0.5584	0.5083	0.4632	0.4224	0.3855	0.3522	0.3220	0.2946	0.2697	0.2472	0.2267	0.1615	0.1164	0.1074	0.0725
11	0.8963	0.8043	0.7224	0.6496	0.5847	0.5288	0.4751	0.4289	0.3875	0.3505	0.3173	0.2875	0.2607	0.2366	0.2149	0.1954	0.1346	0.0938	0.0859	0.0558
12	0.8874	0.7885	0.7014	0.6246	0.5568	0.4970	0.4440	0.3971	0.3555	0.3186	0.2858	0.2567	0.2307	0.2076	0.1869	0.1685	0.1122	0.0757	0.0687	0.0429
13	0.8787	0.7730	0.6810	0.6006	0.5303	0.4688	0.4150	0.3677	0.3262	0.2897	0.2575	0.2292	0.2042	0.1821	0.1625	0.1452	0.0935	0.0610	0.0550	0.0330
14	0.8700	0.7579	0.6611	0.5775	0.5051	0.4423	0.3878	0.3405	0.2992	0.2633	0.2320	0.2046	0.1807	0.1597	0.1413	0.1252	0.0779	0.0492	0.0440	0.0254
15	0.8613	0.7430	0.6419	0.5553	0.4810	0.4173	0.3624	0.3152	0.2745	0.2394	0.2090	0.1827	0.1599	0.1401	0.1229	0.1079	0.0649	0.0397	0.0352	0.0195
16	0.8528	0.7284	0.6232	0.5339	0.4581	0.3936	0.3387	0.2919	0.2519	0.2176	0.1883	0.1631	0.1415	0.1229	0.1069	0.0930	0.0541	0.0320	0.0281	0.0150
17	0.8444	0.7142	0.6050	0.5134	0.4363	0.3714	0.3166	0.2703	0.2311	0.1978	0.1696	0.1456	0.1252	0.1078	0.0929	0.0802	0.0451	0.0258	0.0225	0.0116
18	0.8360	0.7002	0.5874	0.4936	0.4155	0.3503	0.2959	0.2502	0.2120	0.1799	0.1528	0.1300	0.1108	0.0946	0.0808	0.0691	0.0376	0.0208	0.0180	0.0089
19	0.8277	0.6864	0.5703	0.4746	0.3957	0.3305	0.2765	0.2317	0.1945	0.1635	0.1377	0.1161	0.0981	0.0829	0.0703	0.0596	0.0313	0.0168	0.0144	0.0068
20	0.8195	0.6730	0.5537	0.4564	0.3769	0.3118	0.2584	0.2145	0.1784	0.1486	0.1240	0.1037	0.0868	0.0728	0.0611	0.0514	0.0261	0.0135	0.0115	0.0053
21	0.8114	0.6598	0.5375	0.4388	0.3589	0.2942	0.2415	0.1987	0.1637	0.1351	0.1117	0.0926	0.0768	0.0638	0.0531	0.0443	0.0217	0.0109	0.0092	0.0040
22	0.8034	0.6468	0.5219	0.4220	0.3418	0.2775	0.2257	0.1839	0.1502	0.1228	0.1007	0.0826	0.0680	0.0560	0.0462	0.0382	0.0181	0.0088	0.0074	0.0031
23	0.7954	0.6342	0.5067	0.4057	0.3256	0.2618	0.2109	0.1703	0.1378	0.1117	0.0907	0.0738	0.0601	0.0491	0.0402	0.0329	0.0151	0.0071	0.0059	0.0024
24	0.7876	0.6217	0.4919	0.3901	0.3101	0.2470	0.1971	0.1577	0.1264	0.1015	0.0817	0.0669	0.0532	0.0431	0.0349	0.0284	0.0126	0.0057	0.0047	0.0018
25	0.7798	0.6095	0.4776	0.3751	0.2953	0.2330	0.1842	0.1460	0.1160	0.0923	0.0736	0.0588	0.0471	0.0378	0.0304	0.0245	0.0105	0.0046	0.0038	0.0014
30	0.7419	0.5521	0.4120	0.3083	0.2314	0.1741	0.1314	0.0994	0.0754	0.0573	0.0437	0.0334	0.0256	0.0196	0.0151	0.0116	0.0042	0.0016	0.0012	0.0001
35	0.7059	0.5000	0.3554	0.2534	0.1813	0.1301	0.0937	0.0676	0.0490	0.0356	0.0259	0.0189	0.0139	0.0102	0.0075	0.0055	0.0017	0.0005	0.0001	0.0000
36	0.6989	0.4902	0.3450	0.2437	0.1727	0.1227	0.0865	0.0606	0.0440	0.0318	0.0221	0.0154	0.0107	0.0075	0.0053	0.0037	0.0026	0.0007	0.0001	0.0000
40	0.6717	0.4529	0.3066	0.2083	0.1420	0.0972	0.0668	0.0460	0.0318	0.0221	0.0154	0.0107	0.0075	0.0053	0.0037	0.0026	0.0007	0.0001	0.0000	0.0000
50	0.6080	0.3715	0.2281	0.1407	0.0872	0.0543	0.0339	0.0213	0.0134	0.0085	0.0054	0.0035	0.0022	0.0014	0.0009	0.0006	0.0001	0.0000	0.0000	0.0000

Table A-4 Present Value Interest Factors for a One-Dollar Annuity Discounted at k Percent for n Periods: $PVIFA = [1 - 1/(1 + k)^n] / k$

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	20%	24%	25%	30%
1	0.9901	0.9804	0.9709	0.9615	0.9524	0.9434	0.9346	0.9259	0.9174	0.9091	0.9009	0.8929	0.8850	0.8772	0.8696	0.8621	0.8333	0.8065	0.8000	0.7692
2	1.9704	1.9416	1.9135	1.8861	1.8594	1.8334	1.8080	1.7833	1.7591	1.7355	1.7125	1.6901	1.6681	1.6467	1.6257	1.6052	1.5278	1.4568	1.4400	1.3609
3	2.9410	2.8839	2.8286	2.7751	2.7232	2.6730	2.6243	2.5771	2.5313	2.4869	2.4437	2.4018	2.3612	2.3216	2.2832	2.2459	2.1065	1.9813	1.9520	1.8161
4	3.9020	3.8077	3.7171	3.6299	3.5460	3.4651	3.3872	3.3121	3.2397	3.1699	3.1024	3.0373	2.9745	2.9137	2.8550	2.7982	2.5887	2.4043	2.3616	2.1662
5	4.8534	4.7135	4.5797	4.4518	4.3295	4.2124	4.1002	3.9927	3.8897	3.7908	3.6959	3.6048	3.5172	3.4331	3.3522	3.2743	2.9906	2.7454	2.6893	2.4356
6	5.7955	5.6014	5.4172	5.2421	5.0757	4.9173	4.7665	4.6229	4.4859	4.3553	4.2305	4.1114	3.9975	3.8887	3.7845	3.6847	3.3255	3.0205	2.9514	2.6427
7	6.7282	6.4720	6.2303	6.0021	5.7864	5.5824	5.3893	5.2064	5.0330	4.8684	4.7122	4.5638	4.4226	4.2883	4.1604	4.0386	3.6046	3.2423	3.1611	2.8021
8	7.6517	7.3255	7.0197	6.7327	6.4632	6.2098	5.9713	5.7466	5.5348	5.3349	5.1461	4.9676	4.7988	4.6389	4.4873	4.3436	3.8372	3.4212	3.3289	2.9247
9	8.5660	8.1622	7.7861	7.4363	7.1078	6.8017	6.5152	6.2469	5.9952	5.7590	5.5370	5.3282	5.1317	4.9464	4.7716	4.6065	4.0310	3.5655	3.4631	3.0190
10	9.4713	8.9826	8.5302	8.1109	7.7217	7.3601	7.0236	6.7101	6.4177	6.1446	5.8892	5.6502	5.4262	5.2161	5.0188	4.8332	4.1925	3.6819	3.5705	3.0915
11	10.368	9.7868	9.2526	8.7605	8.3064	7.8869	7.4987	7.1390	6.8052	6.4951	6.2065	5.9377	5.6869	5.4527	5.2337	5.0286	4.3271	3.7757	3.6564	3.1473
12	11.255	10.575	9.9540	9.3851	8.8633	8.3838	7.9427	7.5361	7.1607	6.8137	6.4824	6.1644	5.8694	5.5976	5.3463	5.1052	4.3992	3.8514	3.7251	3.1903
13	12.134	11.348	10.635	9.9856	9.3936	8.8527	8.3577	7.9038	7.4869	7.1034	6.7499	6.4235	6.1218	5.8424	5.5831	5.3423	4.5327	3.9124	3.7801	3.2233
14	13.004	12.106	11.298	10.563	9.8986	9.2950	8.7455	8.2442	7.7862	7.3667	6.9819	6.6282	6.3025	6.0021	5.7245	5.4675	4.6106	3.9616	3.8241	3.2487
15	13.865	12.849	11.938	11.118	10.380	9.7122	9.1079	8.5595	8.0607	7.6061	7.1909	6.8109	6.4624	6.1422	5.8474	5.5755	4.6755	4.0013	3.8593	3.2682
16	14.718	13.578	12.561	11.652	10.838	10.106	9.4466	8.8514	8.3126	7.8237	7.3792	6.9740	6.6039	6.2651	5.9542	5.6685	4.7296	4.0333	3.8874	3.2832
17	15.562	14.292	13.166	12.166	11.274	10.477	9.7632	9.1216	8.5436	8.0216	7.5488	7.1196	6.7291	6.3729	6.0472	5.7487	4.7746	4.0591	3.9099	3.2948
18	16.398	14.992	13.754	12.659	11.690	10.828	10.059	9.3719	8.7556	8.2014	7.7016	7.2497	6.8399	6.4674	6.1280	5.8178	4.8122	4.0799	3.9279	3.3037
19	17.226	15.678	14.324	13.134	12.085	11.158	10.336	9.6036	8.9501	8.3649	7.8393	7.3658	6.9380	6.5504	6.1982	5.8775	4.8435	4.0967	3.9424	3.3105
20	18.046	16.351	14.877	13.590	12.462	11.470	10.594	9.8181	9.1285	8.5136	7.9633	7.4694	7.0248	6.6231	6.2593	5.9288	4.8696	4.1103	3.9539	3.3158
21	18.857	17.011	15.415	14.029	12.821	11.764	10.836	10.017	9.2922	8.6487	8.0751	7.5620	7.1016	6.6870	6.3125	5.9731	4.8913	4.1212	3.9631	3.3198
22	19.660	17.658	15.937	14.451	13.163	12.042	11.061	10.201	9.4424	8.7715	8.1757	7.6446	7.1695	6.7429	6.3587	6.0113	4.9094	4.1300	3.9705	3.3230
23	20.456	18.292	16.444	14.857	13.489	12.303	11.272	10.371	9.5802	8.8832	8.2664	7.7184	7.2297	6.7921	6.3988	6.0442	4.9245	4.1371	3.9764	3.3254
24	21.243	18.914	16.936	15.247	13.799	12.550	11.469	10.529	9.7066	8.9847	8.3481	7.7843	7.2829	6.8351	6.4338	6.0726	4.9371	4.1428	3.9811	3.3272
25	22.023	19.523	17.413	15.622	14.094	12.783	11.654	10.675	9.8226	9.0770	8.4217	7.8431	7.3300	6.8729	6.4641	6.0971	4.9476	4.1474	3.9849	3.3286
30	25.808	22.396	19.600	17.292	15.372	13.765	12.409	11.258	10.274	9.4269	8.6938	8.0552	7.4957	7.0027	6.5660	6.1772	4.9789	4.1601	3.9950	3.3321
35	29.409	24.999	21.487	18.665	16.374	14.498	12.948	11.655	10.567	9.6442	8.8552	8.1755	7.5856	7.0700	6.6166	6.2153	4.9915	4.1644	3.9984	3.3330
36	30.108	25.489	21.832	18.908	16.547	14.621	13.035	11.717	10.612	9.6765	8.8786	8.1924	7.5979	7.0790	6.6231	6.2201	4.9929	4.1649	3.9987	3.3331
40	32.835	27.355	23.115	19.793	17.159	15.046	13.332	11.825	10.757	9.7791	8.9511	8.2438	7.6344	7.1050	6.6418	6.2335	4.9966	4.1659	3.9995	3.3332
50	39.196	31.424	25.730	21.482	18.256	15.762	13.801	12.233	10.962	9.9148	9.0417	8.3045	7.6752	7.1327	6.6605	6.2463	4.9995	4.1666	3.9999	3.3333